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WELLS & ASSOCIATES, LLC

TRAFFIC, TRANSPORTATION, and PARKING CONSULTANTS

MEMORANDUM

TO: Washington Adventist Hospital Planning Team

FROM: Melissa T. Hish
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DATE: May 8, 2003

SUBJECT: Parking Demand Analysis for Washington Adventist Hospital;
Takoma Park, Maryland

Introduction

This memorandum presents a parking demand analysis for Washington Adventist Hospital (WAH). A code analysis based on the Montgomery County Zoning Ordinance and a needs analysis based on observed and published data have been prepared. (It being our conclusion that current code requirements for "hospitals" do not reflect actual delivery of medical services and the ancillary services common with modern day hospitals, we feel that the needs analysis is more relevant to this project than the zoning analysis.) These studies reflect the existing and proposed development programs.

Proposed Development Program

WAH proposes to expand the existing hospital tower by 42,500 S.F. to provide more inpatient rooms (not adding any new beds and thus no impact on parking assumed in this report), to expand its emergency department by 5,500 S.F., to possibly expand the existing power plant building by 3,000 S.F. (not generating any additional traffic demands), and to construct a 144,000 S.F. proposed ambulatory care facility (ACF) comprised of ambulatory clinic and physician office space on the main campus. With this expansion project and displacement of 24,566 S.F. of existing

space (the Lisner building and the existing conference center), approximately 124,934 S.F. of net space would generate additional parking demands. This space is delineated into 58,314 S.F. of hospital/clinical space and 66,620 S.F. of medical office.

The new traffic demands associated with the development program are outlined in the "Washington Adventist Hospital and Columbia Union College Joint Local Transportation Area Review", prepared by Wells & Associates, dated April 29, 2003. An aerial photograph of the WAH campus is shown on Figure 1.

Current Parking Demand

The WAH campus currently requires a total of 843 parking spaces based on current zoning requirements, as summarized on Table 1. This methodology is based on the overall size of the hospital campus, the number of physicians, and the number of employees on the major shift. Based on the on-site, secured parking supply of 750 spaces, a deficit of 93 spaces currently exists. However, the current parking supply is augmented with 122 spaces leased from Columbia Union College and 155 spaces provided off-site at Takoma Academy, resulting in a total parking supply of 1,027 spaces. Thus, when off-site spaces available to WAH are included, a surplus of 184 spaces (or 11 percent) exists.

Future Parking Demand Based on Zoning Ordinance

Based on the Montgomery County Zoning Ordinance and the proposed development program, the WAH campus expansions would require an additional 243 spaces, or a total of 1,086 spaces, as summarized on Table 1.

A total of 370 on-campus spaces would be displaced by the hospital expansion, and replaced by a 1,070-space parking structure, resulting in a future on-site parking supply of 1,450 spaces. Thus, a surplus of 364 spaces (or 34 percent) would exist, far exceeding code requirements.



Figure 1
WAH Campus Aerial Photo

North
Schematic

Table 1
Washington Adventist Hospital
Parking Demand Analysis based on Montgomery County Zoning Ordinance (1)

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Scenario/Use	Parking Generation Rate	Amount	Units	Required Spaces
<u>Spaces Required for Existing Campus Uses</u>				
Existing Campus (2)	1.00 space per 1,000 S.F. GFA	455,092	S.F.	456
	1.00 space per resident doctor	90	Physicians	90
	1.00 space per three (3) employees on major shift	890	Employees	297
	Total			843
Existing On-Site Parking Supply (3)				750
Difference (Supply vs. Demand)				
Spaces				(93)
Percent				-11%
<u>Existing Off-Site Parking Supply</u>				
Columbia Union College				122
Takoma Academy				155
Total Off-Site Parking Supply				277
Total On- and Off-Site Parking Supply				1,027
Difference (Supply vs. Demand)				
Spaces				184
Percent				22%
<u>Spaces Required for Future Campus Uses</u>				
Future Campus (2)	1.00 space per 1,000 S.F. GFA	625,526	S.F.	626
	1.00 space per resident doctor	116	Physicians	116
	1.00 space per three (3) employees on major shift	1,030	Employees	344
Total				1,086
<u>Future Campus Parking Demand vs. Supply</u>				
Future Campus Parking Demand				1,086
Future Campus Parking Supply	Existing On-Campus Spaces			750
	Displaced On-Campus Spaces			(370)
	Proposed Parking Garage			1,070
	Total Parking Supply			1,450
Difference (Supply vs. Demand)				
Spaces				364
Percent				34%

Notes:

- (1) Parking requirements based on the Montgomery County Zoning Ordinance. The applicant is of the position that the ordinance requirements do not reflect actual parking needs for current hospital campuses, considering changes in health care delivery and resulting necessary ancillary facilities.
- (2) Existing and projected staff and physician information provided by Washington Adventist Hospital.
- (3) On-site parking supply includes permanent spaces within 500 feet of main entrance per zoning ordinance for which there is permanent deed restriction. The Columbia Union College parking lot is considered interim parking, considering proposed Columbia Union College future expansion.

Future Campus Parking Needs Analysis

Although the current and proposed development programs would meet and exceed code requirements, field observations indicate that constrained conditions exist. This indicates that the code requirements for this use are not representative of actual operating conditions experienced in the field, due to the changes in health care delivery and resulting necessary ancillary facilities. Thus, a more detailed needs analysis was prepared to accurately reflect a realistic parking situation with the future expansion of the hospital.

Baseline conditions were established by conducting parking occupancy counts on Tuesday, December 11, 2001 and Tuesday, January 29, 2002 from 6:00 AM to 8:00 PM at the WAH main campus and off-site facilities. In addition, pedestrian activity from the adjacent neighborhoods was measured to identify hospital patrons/employees that parked on off-site public streets.

The results are summarized on Table 2, and indicate that a peak occupancy of 967 spaces was observed. This equates to a campus-wide parking ratio of 2.12 spaces per 1,000 S.F. of Gross Floor Area (GFA). The existing uses on the campus were assumed to continue to generate parking occupancy at the existing measured rate in order to forecast future parking needs. In addition, the existing measured rate was applied to the proposed additional 58,314 S.F. of hospital/clinical space, since the activity and building type are similar. The proposed additional 66,620 S.F. of medical office space was estimated to generate parking occupancy at 4.11 spaces per 1,000 S.F., based on information published by Institute of Transportation Engineers (ITE). This parking rate does not account for the interaction (or synergy) between the physicians and visitors of the medical office and the hospital/clinical space.

As shown on Table 2, the existing campus uses and the future expansion space are forecasted to generate a peak parking occupancy of 1,364 spaces. The future parking demand was calculated by applying a ten percent factor for practical capacity resulting in a required parking supply of 1,516 spaces. The practical capacity factor accounts for the efficiency of a parking facility at 90 percent, would reduce circulating traffic

Table 2
Washington Adventist Hospital
Parking Needs Analysis

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Scenario	Amount	Units	Existing Occupied Spaces	Parking Generation Rate (per 1,000 S.F.)	Future Parking Occupancy
<u>Existing Parking Occupancy Summary</u>					
Existing On-Site	455,092	S.F.	645		
Columbia Union College (1)			155		
Takoma Academy (2)			104		
Off-Site Public Streets (3)			63		
Total	455,092	S.F.	967	2.12	
<u>Future Expanded Campus</u>					
Existing Uses	455,092	S.F.	967	2.12	967
Future Uses Not Generating Additional Parking Demands (4)	45,500	S.F.	-	-	-
<u>Future Uses Generating Additional Parking Demands (5)</u>					
Hospital/Clinical	58,314	S.F.	NA	2.12	124
Medical Office (6)	66,620	S.F.	NA	4.11	274
Subtotal	625,526	S.F.			1,364
	124,934				
Parking Demand with 10 percent practical capacity	1,516 spaces				
<u>Future Parking Supply</u>					
Existing On-Campus Parking Supply (exclusive of CUC spaces).	750	spaces			
Displaced Parking Spaces	(370)	spaces			
Proposed Parking Garage	1,070	spaces			
Total Future On-Campus Parking Supply	1,450	spaces			
<u>Future Campus Parking Demand</u>					
Future Campus Parking Demand	1,516	spaces			
Future On-Site Campus Parking Supply	1,450	spaces			
Difference (Supply vs. Demand)					
Spaces	(66)	spaces			
Percent	-4%				

Notes:

- (1) Based on observations by Wells & Associates on Tuesday, December 11, 2001 occurring at 3:00 PM, the hospital peak.
- (2) Based on observations by Wells & Associates on Tuesday, January 29, 2002, occurring at 3:00 PM, the hospital peak.
- (3) Based on observations by Wells & Associates on Thursday, March 28, 2002 during the hospital peak periods.
- (4) The hospital modernization space (42,500 S.F.) and the power plant building addition (3,000 S.F.) is assumed to generate no additional parking demand.
- (5) Includes existing conference center (14,666 S.F.) and the Lisner Building (9,900 S.F.) displaced by the hospital expansion.
- (6) Based on Parking Generation, Second Edition, Institute of Transportation Engineers.

within the parking fields during peak periods, and ensure that an adequate parking supply is available.

The planned future supply of 1,450 spaces on campus will result in a deficit of 66 spaces (or four percent), during the peak demand period. This parking deficiency would be resolved through transportation demand management measures, outlined in a separate document.

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